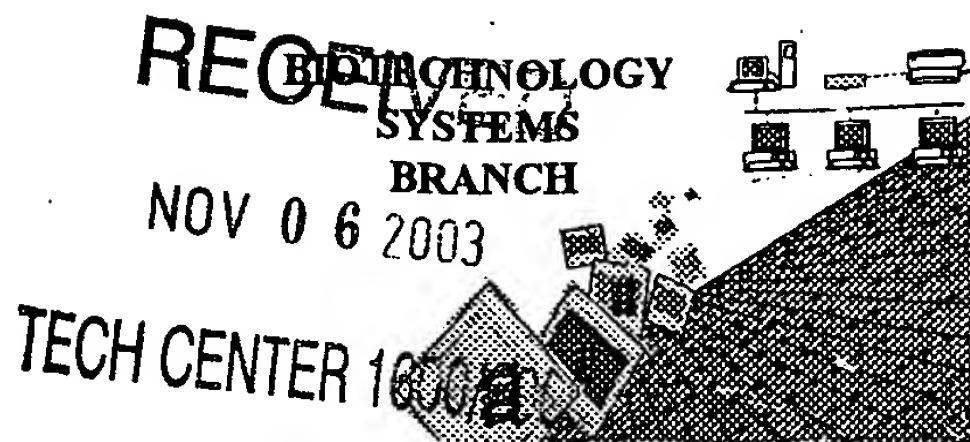


RAW SEQUENCE LISTING **ERROR REPORT**



The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 09/804,481A

Source: 1600

Date Processed by STIC: 11/3/2003

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION AND PATENTIN SOFTWARE QUESTIONS, PLEASE CONTACT MARK SPENCER, TELEPHONE: 703-308-4212; FAX: 703-308-4221

Effective 12/13/03: TELEPHONE: 571-272-2510; FAX: 571-273-0221

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER VERSION 4.1 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS:

<http://www.uspto.gov/web/offices/pac/checker/chkr41note.htm>

Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail.

Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom.

Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

1. EFS-Bio (<<http://www.uspto.gov/ebc/efs/downloads/documents.htm>> , EFS Submission User Manual - ePAVE)
2. U.S. Postal Service: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450
3. Hand Carry directly to (EFFECTIVE 12/01/03):
U.S. Patent and Trademark Office, Box Sequence, Customer Window, Lobby, Room 1B03, Crystal Plaza Two, 2011 South Clark Place, Arlington, VA 22202
4. Federal Express, United Parcel Service, or other delivery service to: U.S. Patent and Trademark Office, Box Sequence, Room 1B03-Mailroom, Crystal Plaza Two, 2011 South Clark Place, Arlington, VA 22202

Revised 10/08/03



1600

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/804,481A

DATE: 11/04/2003

TIME: 13:57:42

Input Set : N:\Cr4\11032003\I804481A.raw

Output Set: N:\CRF4\11042003\I804481A.raw

1 <110> APPLICANT: de Graaf, David
 2 Lander, Eric S.
 3 <120> TITLE OF INVENTION: Novel Small Nuclear RNA Vectors and Uses
 4 Therefor
 5 <130> FILE REFERENCE: 2825.1023-001
 C--> 6 <140> CURRENT APPLICATION NUMBER: US/09/804,481A
 C--> 7 <141> CURRENT FILING DATE: 2001-03-12
 8 <150> PRIOR APPLICATION NUMBER: 60/188,304
 9 <151> PRIOR FILING DATE: 2000-03-10
 10 <160> NUMBER OF SEQ ID NOS: 11
 11 <170> SOFTWARE: FastSEQ for Windows Version 4.0
 13 <210> SEQ ID NO: 1
 14 <211> LENGTH: 4639
 15 <212> TYPE: DNA
 16 <213> ORGANISM: Homo sapiens
 17 <400> SEQUENCE: 1
 18 gacggatcgg gagatctccc gatcccctat ggtcgactct cagtacaatc tgctctgatg 60
 19 ccgcatagtt aagccagtat ctgctccctg cttgtgtgtt ggaggtegct gagtagtgcg 120
 20 cgagcaaaat ttaagctaca acaaggcaag gcttgaccga caattgagct cggtagcccg 180
 21 ggagatccgg taaggaccag cttcttttgg agagaacaga cgcaggggag ggagggaata 240
 22 agggagaggc agacgtcact tccccttggc ggctctggca gcagatttgt cggttgagtg 300
 23 gcagaaaggc agacggggac tgggcaaggc actgtcgggtg acatcacgga cagggcgact 360
 24 tctatgtaga tgaggcagcg cagaggctgc tgcttcgcca cttgctgctt caccacgaag 420
 25 gagttcccggt gccctgggag cgggttcagg accgctgacg ggaagtgaga atcccagctg 480
 26 tgtgtcaggg ctggaaaggc ctgaggagtg cgcggggcaa gtgaccgtgt gtgtaaagag 540
 27 tgaggcgtag gaggtgtgtt cggggcagag gcccaagatc tcaagggccg ataacatgtg 600
 28 taccatcgat tgcaggggag ataccatgat cacgaagggtg gttttcccgag ggcgaggctt 660
 29 atccattgca ctccggatgt gctgaccctt gcgatttccc caaagcttgg aaactcgact 720
 30 gcataatttg tggtagtggg ggactgcgtt cgcgctttcc ectgactttc tggagtttca 780
 31 aaagtagact gtacgctaac cggatcctct agagtcgacc tgcaggcatg cagaagacaa 840
 32 ttagcaggca tgctggggat gcggtgggct ctatggcttc tgaggcgga aagaaccagct 900
 33 ggggctctag ggggtatccc cagcgccctt gtagcggcgc attaagcgcg gcgggtgtgg 960
 34 tggttacgag cagcgtgacc gctacacttg ccagcgccct agcgcccgct cctttcgctt 1020
 35 tcttcccttc ctttctcgcc acgttcgccc gctttccccc tcaagctcta aatcggggca 1080
 36 tcccttttagg gttccgattt agtgctttac ggcacctcga ccccaaaaaa cttgattagg 1140
 37 gtgatgggtc acgtagtggg ccacgcctt gatagacggg ttttcgccc ttagcgttgg 1200
 38 agtccacgtt ctttaatatg ggactcttgt tccaaacttg aacaacactc aaccctatct 1260
 39 cgggtctatt ttttgattta taagggattt tggggatttc ggcctatttg ttaaaaaaat 1320
 40 agctgattta acaaaaattt aacgcgaatt aattctgttg aatgtgtgtc agttagggtg 1380
 41 tggaaagtcc ccaggctccc caggcaggca gaagtatgca aagcatgcat ctcaattagt 1440
 42 cagcaaccag gtgtggaaag tccccaggct cccagcagg cagaagtatg caaagcatgc 1500
 43 atctcaatta gtcagcaacc atagtcccg ccctaactcc gcccatcccg cccctaactc 1560
 44 cgcccagttc cgcccattct ccgcccctat gctgactaat tttttttatt tatgcagagg 1620

Does Not Comply
Corrected Diskette Needed

P.3

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/804,481A

DATE: 11/04/2003

TIME: 13:57:42

Input Set : N:\Crf4\11032003\I804481A.raw

Output Set: N:\CRF4\11042003\I804481A.raw

45	ccgaggccgc	ctctgcctct	gagctattcc	agaagtagtg	aggaggcttt	tttggaggcc	1680
46	taggcttttg	caaaaagctc	ccgggagctt	gtatatccat	tttcggatct	gatcagcacg	1740
47	tgttgacaat	taatcatcgg	catagtatat	cggcatagta	taatacgaca	aggtgaggaa	1800
48	ctaaaccatg	gccaagttga	ccagtgccgt	tccggtgctc	accgcgcgcg	acgtcgccgg	1860
49	agcggtcgag	ttctggaccg	accggctcgg	gttctcccgg	gacttcgtgg	aggacgactt	1920
50	cgccggtgtg	gtccgggacg	acgtgaccct	gttcatcagc	gcggtccagg	accaggtggt	1980
51	gccggacaac	accctggcct	gggtgtgggt	gcgcggcctg	gacgagctgt	acgccgagtg	2040
52	gtcggaggtc	gtgtccacga	acttccggga	cgcctccggg	ccggccatga	ccgagatcgg	2100
53	cgagcagccg	tgggggcggg	agttcgccct	gcgcgacccg	gccggcaact	gcgtgcactt	2160
54	cgtggccgag	gagcaggact	gacacgtgct	acgagatttc	gattccaccg	ccgccttcta	2220
55	tgaaagggtg	ggcttcggaa	tcgttttccg	ggacgcgggc	tggatgatcc	tccagcgcgg	2280
56	ggatctcatg	ctggagttct	tcgcccaccc	caacttgttt	attgcagctt	ataatggtta	2340
57	caaataaagc	aatagcatca	caaatttcac	aaataaagca	tttttttcac	tgcattctag	2400
58	ttgtggtttg	tccaaactca	tcaatgtatc	ttatcatgtc	tgtataccgt	cgacctctag	2460
59	ctagagcttg	gcgtaatcat	ggtcatagct	gtttcctgtg	tgaaattggt	atccgctcac	2520
60	aattccacac	aacatacgag	ccggaagcat	aaagtgtaaa	gcctgggggtg	cctaatagagt	2580
61	gagctaactc	acattaattg	cgttgcgctc	actgcccgct	ttccagtcgg	gaaacctgtc	2640
62	gtgccagctg	cattaatgaa	tcggccaacg	cgcggggaga	ggcggtttgc	gtattgggcg	2700
63	ctcttccgct	tcctcgctca	ctgactcgct	gcgctcggtc	gttcggctgc	ggcgagcggg	2760
64	atcagctcac	tcaaaggcgg	taatacgggt	atccacagaa	tcaggggata	acgcaggaaa	2820
65	gaacatgtga	gcaaaaggcc	agcaaaaggc	caggaaccgt	aaaaaggccg	cgttgctggc	2880
66	gtttttccat	aggctccgcc	cccctgacga	gcatacaaaa	aatcgacgct	caagtcagag	2940
67	gtggcgaaac	ccgacaggac	tataaagata	ccaggcgttt	ccccctggaa	gctccctcgt	3000
68	gcgctctcct	gttccgaccc	tgccgcttac	cggatacctg	tccgcctttc	tccttccggg	3060
69	aagcgtggcg	ctttctcaat	gctcacgctg	taggtatctc	agttcgggtg	aggtcgttcg	3120
70	ctccaagctg	ggctgtgtgc	acgaaccccc	cgttcagccc	gaccgctgcg	ccttatccgg	3180
71	taactatcgt	cttgagtcca	acccggtaag	acacgactta	tcgccactgg	cagcagccac	3240
72	tggtaacagg	attagcagag	cgaggatatg	aggcgggtgct	acagagttct	tgaagtgggtg	3300
73	gcctaactac	ggctacacta	gaaggacagt	atttggtatc	tgcgctctgc	tgaagccagt	3360
74	taccttcgga	aaaagagttg	gtagctcttg	atccggcaaa	caaaccaccg	ctggtagcgg	3420
75	tggttttttt	gtttgcaagc	agcagattac	gcgcagaaaa	aaaggatctc	aagaagatcc	3480
76	tttgatcttt	tctacggggg	ctgacgctca	gtggaacgaa	aactcacggt	aagggtattt	3540
77	ggatcatgaga	ttatcaaaaa	ggatcttcac	ctagatcctt	ttaaattaaa	aatgaagttt	3600
78	taaatcaatc	taaagtatat	atgagtaaac	ttggtctgac	agttaccaat	gcttaatcag	3660
79	tgaggcacct	atctcagcga	tctgtctatt	tcgttcatcc	atagttgcct	gactccccgt	3720
80	cgtgtagata	actacgatac	gggagggctt	accatctggc	cccagtgcgt	caatgatacc	3780
81	gcgagaccca	cgctcaccgg	ctccagattt	atcagcaata	aaccagccag	ccggaagggc	3840
82	cgagcgcaga	agtggtcctg	caactttatc	cgcctccatc	cagtctatta	attggtgccg	3900
83	ggaagctaga	gtaagtagtt	cgccagttaa	tagtttgccg	aacgttggtg	ccattgctac	3960
84	aggcatcgtg	gtgtcacgct	cgtcgttttg	tatggcttca	ttcagctccg	gttcccaacg	4020
85	atcaaggcga	gttacatgat	cccccatggt	gtgcaaaaaa	gcggttagct	ccttcgggtcc	4080
86	tccgatcgtt	gtcagaagta	agttggccgc	agtgttatca	ctcatgggtta	tggcagcact	4140
87	gcataattct	cttactgtca	tgccatccgt	aagatgcttt	tctgtgactg	gtgagtactc	4200
88	aaccaagtca	ttctgagaat	agtgtatgcg	gcgaccgagt	tgctcttgcc	cggcgtcaat	4260
89	acgggataat	accgcgccac	atagcagaac	tttaaaagtg	ctcatcattg	gaaaacgttc	4320
90	ttcggggcga	aaactctcaa	ggatcttacc	gctgttgaga	tccagttcga	tgtaaccac	4380
91	tcgtgcaccc	aactgatctt	cagcatcttt	tactttcacc	agcgtttctg	ggtgagcaaa	4440
92	aacaggaagg	caaaatgccg	caaaaaaggg	aataaggcgc	acacggaaat	gttgaatact	4500
93	catactcttc	ctttttcaat	attattgaag	catttatcag	ggttattgtc	tcatgagcgg	4560

RAW SEQUENCE LISTING

DATE: 11/04/2003

PATENT APPLICATION: US/09/804,481A

TIME: 13:57:42

Input Set : N:\Crf4\11032003\I804481A.raw

Output Set: N:\CRF4\11042003\I804481A.raw

```

94      atacatattt gaatgtattt agaaaaataa acaaataagg gttccgcgca catttccccg 4620
95      aaaagtgcc cctgacgtc                                     4639
97 <210> SEQ ID NO: 2
98 <211> LENGTH: 5
99 <212> TYPE: DNA
100 <213> ORGANISM: Artificial Sequence
101 <220> FEATURE:
102 <223> OTHER INFORMATION: single-stranded restriction fragment overhand
103 <400> SEQUENCE: 2
104      gcagg                                                    5
106 <210> SEQ ID NO: 3
107 <211> LENGTH: 5
108 <212> TYPE: DNA
109 <213> ORGANISM: Artificial Sequence
110 <220> FEATURE:
111 <223> OTHER INFORMATION: single-stranded restriction fragment overhang
112 <400> SEQUENCE: 3
113      tgaga                                                    5
115 <210> SEQ ID NO: 4
116 <211> LENGTH: 33
117 <212> TYPE: DNA
118 <213> ORGANISM: Artificial Sequence
119 <220> FEATURE:
120 <223> OTHER INFORMATION: recognition site
121 <220> FEATURE:
122 <221> NAME/KEY: misc_feature
123 <222> LOCATION: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16, 22, 23, 24,
124      25, 26, 27, 28, 29, 30, 31, 32, 33
125 <223> OTHER INFORMATION: n = A,T,C or G
126 <400> SEQUENCE: 4
W--> 127      nnnnnnnnnn acnnngtay cnnnnnnnnn nnn                33
129 <210> SEQ ID NO: 5
130 <211> LENGTH: 33
131 <212> TYPE: DNA
132 <213> ORGANISM: Artificial Sequence
133 <220> FEATURE:
134 <223> OTHER INFORMATION: recognition site
135 <220> FEATURE:
136 <221> NAME/KEY: misc_feature
137 <222> LOCATION: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19,
138      20, 21, 27, 28, 29, 30, 31, 32, 33
139 <223> OTHER INFORMATION: n = A,T,C or G
140 <400> SEQUENCE: 5
W--> 141      nnnnnnnnggc acnnngtgn nnnnnnnnnn nnn
143 <210> SEQ ID NO: 6
144 <211> LENGTH: 10
145 <212> TYPE: DNA
146 <213> ORGANISM: Artificial Sequence
147 <220> FEATURE:

```

No "n"s at these locations (see below)
 18, 19, 18.

22 (see below)
 23, 24, 25, 26

16, there is an
 "n"

n's are at
 these locations

RAW SEQUENCE LISTING

DATE: 11/04/2003

PATENT APPLICATION: US/09/804,481A

TIME: 13:57:42

Input Set : N:\Crf4\11032003\I804481A.raw

Output Set: N:\CRF4\11042003\I804481A.raw

```

148 <223> OTHER INFORMATION: modification fragment
149 <400> SEQUENCE: 6
150      cacaaacaca                                10
152 <210> SEQ ID NO: 7
153 <211> LENGTH: 12
154 <212> TYPE: DNA
155 <213> ORGANISM: Artificial Sequence
156 <220> FEATURE:
157 <223> OTHER INFORMATION: modification fragment
158 <400> SEQUENCE: 7
159      tccacaaaca ca                                12
161 <210> SEQ ID NO: 8
162 <211> LENGTH: 15
163 <212> TYPE: DNA
164 <213> ORGANISM: Artificial Sequence
165 <220> FEATURE:
166 <223> OTHER INFORMATION: modification fragment
167 <400> SEQUENCE: 8
168      tcgtccacaa acaca                            15
170 <210> SEQ ID NO: 9
171 <211> LENGTH: 12
172 <212> TYPE: DNA
173 <213> ORGANISM: Artificial Sequence
174 <220> FEATURE:
175 <223> OTHER INFORMATION: modification fragment
176 <400> SEQUENCE: 9
177      cacaaacaca ac                                12
179 <210> SEQ ID NO: 10
180 <211> LENGTH: 10
181 <212> TYPE: DNA
182 <213> ORGANISM: Artificial Sequence
183 <220> FEATURE:
184 <223> OTHER INFORMATION: modification fragment
185 <400> SEQUENCE: 10
186      cacaaacacg                                    10
188 <210> SEQ ID NO: 11
189 <211> LENGTH: 59
190 <212> TYPE: DNA
191 <213> ORGANISM: Artificial Sequence
192 <220> FEATURE:
193 <223> OTHER INFORMATION: vector construct
194 <400> SEQUENCE: 11
195      ggcccaagat ctcaagggcc cataacatgt gtaccatcga ttgcagggga gataccatg  59

```

RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/09/804,481A

DATE: 11/04/2003
TIME: 13:57:43

Input Set : N:\Crf4\11032003\I804481A.raw
Output Set: N:\CRF4\11042003\I804481A.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:4; N Pos. 1,2,3,4,5,6,7,8,9,10,13,14,15,16,22,23,24,25,26,27,28,29,30

Seq#:4; N Pos. 31,32,33

Seq#:5; N Pos. 1,2,3,4,5,6,7,13,14,15,16,19,20,21,22,23,24,25,26,27,28,29

Seq#:5; N Pos. 30,31,32,33

VERIFICATION SUMMARY

DATE: 11/04/2003

PATENT APPLICATION: US/09/804,481A

TIME: 13:57:43

Input Set : N:\Crf4\11032003\I804481A.raw

Output Set: N:\CRF4\11042003\I804481A.raw

L:6 M:270 C: Current Application Number differs, Wrong Format
L:7 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:127 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:0
L:141 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:0